

ABSTRACT OF THE DISCLOSURE

A data bit stream is segmented into 4-bit data words and successively shifted two bits at a time. For each 4-bit data word a corresponding 3-bit code word is detected in a conversion table. Two higher significant bits of each data word is converted to the detected code word and two lower significant bits of the data word is then converted as two higher significant bits of a subsequent data word to a corresponding code word, so that a channel bit stream formed by a series of such code words has no consecutive 1's. A digital sum value of the channel bit stream is determined and a search is made for a code word "010" which is consecutive with a code word "000". The detected code word "010" is replaced with a substitute code word "000" if the replacement results in the digital sum value approaching zero.